

INVESTIGATOR'S ANNUAL REPORT

National Park Service

All or some of the information provided may be available to the public

Reporting Year: 1994	Park: Shenandoah NP						
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Permit#: SHEN1994AJKV							
Park-assigned Study Id. #: unknown							
Project Title: Bird Monitoring							
Permit Start Date: Jan 01, 1998	Permit Expiration Date Jan 01, 1998						
Study Start Date: Jan 01, 1994	Study End Date Jan 01, 1994						
Study Status: Completed							
Activity Type: Other							
Subject/Discipline: Birds / Ornithology							
Objectives: 1. To measure the present breeding population of neotropical migrant and resident landbird species at Shenandoah National Park for the purpose of detecting and monitoring population trends.;2. To provide annual indices of adult population size and post-fledgling productivity, and to provide annual estimates of adult population size, adult survivorship and adult capture probability for landbird species from capture-recapture data in three dominant forest cover types at Shenandoah National Park.							
Findings and Status: The 1994 Breeding Bird Survey effort at SNP recorded a total of 2319 birds representing 66 species. The Front Royal route produced 566 bird observations (48 species), the Big Meadows route produced 557 bird observations (50 species), the Milam Gap route produced 704 bird observations (45 species), and the Loft Mountain route produced 492 bird observations (48 species). The most frequently encountered species parkwide included wood thrushes (234), indigo buntings (233), rufous-sided towhees (220), ovenbirds (152), American redstarts (145), red-eyed vireos (136), Veerys (126), Scarlet Tanagers (117), and eastern wood pewees (115). All routes have been run for two consecutive years.;A total of 1188 birds of 47 species were banded at the six Park MAPS stations during the summer of 1994. In addition, 314 recaptures (including both within and between-season recaptures), and 67 birds released unbanded were recorded, for a total of 1469 captures. This represents an increase of 18.4% over 1993. The capture rate of adults of all species pooled (a measure of adult population size given as the number of individual adults captured per 600 net-hours), increased by 37.2% between 1993 and 1994. This may be a reflection of the high productivity of Shenandoah's birds in 1993. Changes in indices of adult population size were fairly similar between replicates of the same habitat type. The largest increases in adult capture rates were recorded at the two stations located in chestnut oak habitat, Jeremy's Run (96.6%) and Big Run (70.2%), and at the cove hardwood habitat at Hazeltop Ridge (71.7%). The adult capture rate at Dean Mountain, also in cove hardwood habitat, increased more moderately (36.6%). The smallest increases in adult population size were recorded at the two stations located in northern red oak habitat, Crescent Rock (17.7%) and Pinnacles Cliff (2.2%). In contrast to the overall increase in the capture rates of adult birds, the overall capture rate of young decreased by 7.0% while the percentage of young in the catch decreased by an absolute 9.7%. Despite overall decreases in both indices of productivity, positive changes in these indices were found for both chestnut oak stations. Percent increases							

in the capture rate of young were 235.7% for Jeremy's Run and 75.7% for Big Run, clearly reflecting the substantial increase in the number of breeding adults at these stations. Hazeltop Ridge, however, did not show an increase in the capture rate of young corresponding to its increase in breeding adults. Absolute increases in the proportion of young in the catch also occurred at the two chestnut oak stations, 13.3% at Jeremy's Run and 0.8% at Big Run. Small to moderate decreases were obtained in both indices of productivity at each of the four remaining stations. As in 1993, relative indices of adult population size derived from point count data correlated extremely well with indices of adult population size derived from capture data, thus indicating that mist-netting data can provide accurate relative indices of adult population size. Although three years of capture data have been collected for two of the six stations, data were insufficient to permit the estimation of survival and recapture probabilities.

For this study, were one or more specimens collected and removed from the park but not destroyed during analyses?

No

Funding provided this reporting year by NPS:

14855

Funding provided this reporting year by other sources:

0

Fill out the following ONLY IF the National Park Service supported this project in this reporting year by providing money to a university or college

Full name of college or university:

n/a

Annual funding provided by NPS to university or college this reporting year:

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